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ABSTRACT

During the fall semester of 1976, a pre-test/post-test study was conducted to compare open circuit television and on-campus instruction for "introduction to business" students. The telecourse consisted of on-campus orientation, newsletters, a study guide, 30 TV programs, telephone assistance, selected activities, and examinations. The sample included 261 telecourse students and 98 on-campus students from seven campuses. Tests were administered during the first and last instructional weeks to measure career interests, locus of control, and student attitudes toward the field of business. Additionally, a final achievement test was given. Findings indicated no appreciable change in the career interests of either group, and no significant change in attitudes. Both groups mastered the course objectives, but the television group mean score of 89.95 was higher than that for on-campus students (80.00). Locus of control scores shifted significantly more for television students, while those of on-campus students changed in only one category. Group differences included age, sex, and ethnic distributions. Females in both groups achieved higher mastery scores, as did students above age 28, but overall achievement was comparable for both groups. (RT)

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# EVALUATION OF THE BUSINESS 105 TELECOURSE "IT'S EVERYBODY'S BUSINESS"

SEPTEMBER 15, 1977

office of
Special Services

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## SETTING OF THE STUDY

In keeping with the philosophy of offering quality educational experiences to all segments of the community, the Dallas County Community College District strives to design instructional strategies to maximize educational opportunities for all citizens. One such strategy is developing and implementing instructional programs utilizing open-circuit television. While these programs are designed to provide educational opportunities to citizens who might not otherwise be able to actively participate in the post-secondary education movement, they also provide alternative instructional options for all students. These programs can be used for open-circuit broadcasts on public television, closed-circuit use or individual study use in learning resource centers.

Dallas County Community College began offering Instruction television to the area in 1972. Currently, there are seven courses offered, with others in the development stage. Each course consists of thirty, half-hour broadcasts which utilize a variety of dramatizations, studio and on-site interviews, panel discussions, lectures, films and other techniques to present the course content. The telecourses include the following components:

1) Orientation Session - The students attend an initial meeting on campus to learn of the course organization and procedures. At this time, they are placed into

groups and assigned to an instructor whom they may call for assistance with the course.

2) Newsletter - Periodically, during the semester, a mail-out is made to the students to inform them of happenings or remind them of testing sessions and assignment deadlines.

3) Study Guide - The study guide contains lesson objectives, lesson overviews, pre-tests, vocabulary terms, topic outlines of the TV programs, study questions, post-tests and other learning activities related to the course content.

4) TV Programs - There are thirty television programs, each thirty minutes in length, broadcast over open-circuit public television. Each program is shown three times a week at various times so that students will be able to view the programs easily and may review the same program a second or third time.

5) Hotline Telephone Service - If a student experiences problems with a course or has questions about scheduled activities, he may call the hotline number for assistance. If the Hotline personnel are unable to adequately answer a student's question, the question is forwarded to an instructor for response to the student.

6) Options - Depending on the course, there are a number of other activities which may be required: Laboratory sessions are required for one course, discussion meetings are held for another course.

7) Examinations - Each course has required examinations which may be completed on one of three days; Friday, Saturday, or Sunday. Examinations are administered in centrally located campus "Testing Centers."

## METHODOLOGY

### Purpose

The purpose of this study was to investigate the career interests, locus of control, attitude, and achievement of students enrolled in "It's Everybody's Business," an introduction to business course offered over open-circuit instructional television, as related to similar aspects of students enrolled in on-campus sections of introduction to business. A number of questions were of concern in this study:

1) Were there differences in the career interests, locus of control, attitude, or achievement of the open-circuit Instructional television students as compared to on campus students, after completion of their respective courses.
2) Was a change in career interests, locus of control, and attitude observable in either group after completion of their respective course?
3) Was there a difference in attitude, locus of control, and achievement between those students who classified themselves as "business career" students and those who classified themselves as "non-business career" students?

Another purpose of this study was to gather demographic

information about the students in the telecourse and on-campus business courses to see if age, sex, or ethnic origin had any effect on attitude, locus of control, or achievement.

## Design of the Study

During the fall semester of 1976, a pre-test/post-test design was implemented involving two groups of community college "introduction to business" students. One group consisted of students enrolled in "It's Everybody's Business" an open-circuit instructional television course offered by Dallas County Community College District. The other group consisted of students enrolled in on campus sections of "Introduction to Business" at colleges in the Dallas County Community College District system. One section was randomly selected from each college.

During the first week of the semester, pre-tests were administered to determine the career interests, locus of control, and attitudes of students in the on-campus sections. The telecourse students completed the same measures during their orientation meeting scheduled during the first week of regular classes.

During the final week of the semester, the same three instruments were administered to both groups. In addition,

a final test was administered to both groups and an achievement score was obtained. The test administered to the on-campus sections contained the same questions as the test used for the telecourse.

Instruments

There were four variables of interests in this study: career interests, locus of control, attitude, and achievement. To determine career interests, the "Student Career Interest Survey" developed in 1971 by a panel of business persons and educators in Dallas was administered to both telecourse and on-campus students. The development of this instrument utilized sources of published occupational information such as the "Occupational Outlook Handbook," and the "Dictionary of Occupational Titles." This instrument identifies general career titles but not specific job titles. For five years it has been used in the Dallas area to identify students who were interested in careers in the business fields. Each year, it has been revised to better reflect the jobs in the community. In this study, it was used for two purposes:

1. to identify the career interests of all students in the study,
2. to identify the "business career' and "non-business career" students.

A copy of this instrument can be found in Appendix A.

To determine the locus of control of students, "Levenson's I, P, and C, Locus of Control" instrument was used. It was designed by Levenson to measure three dimensions of control over peoples' actions. The scales measure the degree to which an individual feels he has control over what happens to him, not what he feels is the case for people in general. The "I" scale measures the extent to which a person believes he has control over his life. The "P" scale measures the extent to which others have control over a person's life, and the "C" scale is concerned with the extent to which a person believes that chance and forces outside of one's self have control over his behavior. In this study, this instrument was used to identify the locus of control of all students in order to determine if a relationship might exist between the locus of control and other measured factors. A copy of this instrument can be found in Appendix A.

To determine the attitude of students, a semantic differential instrument was constructed using the design suggested by Charles Osgood. This instrument which consists of bipolar adjectives which, when grouped, measure the intensity of positive or negative affect for or against a symbol, person, or idea, was constructed in order to measure attitudes toward business, employers, world of work, and free enterprise. In this study, it was used to measure the attitudes of all students to the above mentioned areas so possible relationships between types of instruction and attitudes may be revealed. A copy of this instrument can be found in Appendix A.

Achievement of the cognitive objectives of the course was determined through the use of a test given at the end of the semester. This instrument was developed based on performance objectives for the Introduction to Business course common to both the on campus and the Instructional television courses. The course objectives were the same for both methods of instruction.

Initially, a large number of objective-type questions were constructed from this set of objectives. A copy of the questions was sent to the four on-campus instructors and the two Instructional television instructors involved in the study. The instructors rated each question as either "yes" or "no" or "undecided." The questions that received "yes" votes were placed in a list and fifty questions were randomly selected from this group. Again, a copy was sent to the participating instructors for approval. When the final test was to be administered to all groups, each instructor used these fifty questions.

In addition to these four variables, demographic information was collected on all the students in this study. Using computer programs, the records of students who were enrolled in the telecourse, and on-campus control sections were examined and their age, sex, and ethnic origin were obtained so that comparisons could be made in order to determine if differences existed between the two groups.

## FINDINGS

The enclosed findings are organized and discussed in the following order:

1) an investigation of the relationships between on-campus students and Instructional television students over the four variables; career interests, locus of control, attitude and achievement
2) an investigation of the relationships between business-career students and non-business career students over the three variables: attitude, locus of control, and achievement
3) an investigation of the relationship between locus of control and achievement for Instructional television and on-campus Introduction to Business students
4) a descriptive profile of all students who participated in the study

### Career Choice

One of the objectives of the Introduction to Business Course, via open circuit television and on-campus, is to provide the students with information about business careers that will assist them in career selection. To determine whether or not this objective was achieved, the Career Interest Survey was administered to both groups twice, once at the first of the semester and again at the end of the semester. The following tables contain the summative data.

Tables 1 and 2 contain data pertaining to the number of students who selected a business career. In order to be included in these tables, the students had to complete both a pretest and posttest career interest survey form. Table 1 contains the total number of Instructional television students who completed both administrations of the career interest survey and the number and percentages of students who selected a business career on each administration. Table 2 contains similar data for on campus students. Table 3 contains the total number of students in the Instructional television and on campus courses who completed only the posttest of the career interest survey and the number of percentages of students who selected business careers.

TABLE 1

Telecourse Students Choosing Business Careers

| | Pretest | Post-test |
|---|---|---|
| Total | 249 | 249 |
| Number selecting business | 84 | 81 |
| Percent | 34% | 33% |

TABLE 2

On-campus Students Choosing Business Careers

| | Pretest | Post-test |
|---|---|---|
| Total | 85 | 85 |
| Number selecting business | 21 | 26 |
| Percent | 25% | 31% |

TABLE 3

Students Selecting a Business Career on Posttest

| | Television | On-campus |
|---|---|---|
| Total | 279 | 102 |
| Number selecting business | 90 | 30 |
| Percent | 34% | 33% |

In tables 1 and 2, it can bee seen that there is a small difference in the number of students who selected a business career on the pretest compared to the students who selected a business career on the posttest. In both cases, there is no significant difference in the percentage of students choosing business careers between pretest and posttest. The small difference between the percentage of students in the telecourse and on-campus who selected a business career as seen in table 3 was not significant. On the basis of these results, it may be concluded that in the area of modifying student career interests, neither method of instruction had any appreciable effect.

Locus of Control

There has been much written concerning the personality characteristics of students who enroll in Instructional Television courses. Whether their characteristics are different than the students' who enroll in on-campus courses has been a topic of much discussion. To discover certain elements of personality characteristics existing within the students in this study, Levenson's locus of control instrument was used. This instrument has 3 scales which reveal the extent to which people perceive contingency relationships between their actions and the outcomes. This instrument was administered in a pretest-posttest design.

Tables 4 and 5 contain the mean scores of the three different

locus of control scales for the telecourse student and the on-campus scales for the telecourse student and the on-campus student. A t-test for independent samples was used to reveal any significant findings.

TABLE 4

Telecourse Locus of Control Mean Scores

| | Pretest | Posttest |
|---|---|---|
| Internal | 37.552 | 38.837 |
| Powerful other | 18.674 | 30.025 |
| Chance | 17.849 | 28.741 |

TABLE 5

On-Campus Locus of Control Mean Scores

| | Pre-test | Post-test |
|---|---|---|
| Internal | 37.184 | 37.586 |
| Powerful other | 29.517 | 30.828 |
| Chance | 29.092 | 29.506 |

The telecourse students locus of control scores increased significantly in all three areas between the pretest and posttest. For the on-campus students, there was no change in their "internal" or "chance" scores but their belief that one's life is controlled by "powerful others" became significantly greater between the pretest and the posttest.

All in all, pretest to posttest shifts in the locus of control scales were more pronounced for the Instructional television group than for the on-campus group. This is primarily due to extremely low pretest means for the telecourse group. Whether these low scores are a function of the nature of the telecourse student in general or simply an extreme sampling error is unknown.

Of interest in this study were the differences between telecourse and on campus students on the locus of control scales. While statistical measures were employed to investigate differences in posttest means for television and on-campus groups, definitive interpretation of the results was restricted by the large unexplainable differences in pretest scores between the two groups.

Attitude

Another objective of the introduction to business Instructional television course and the on-campus course is to create in the student positive attitudes toward the American economic and business systems and their operations. To measure this attitude,

a semantic differential scale was devised and administered in a pretest-posttest design. Tables 6 and 7 contain the pretest and posttest mean attitude scores for the television and on-campus groups respectively. The possible range of scores for each of the measures was from a low of 10 to a high of 70. A low score indicated a negative attitude toward the concept while a high score indicated a positive attitude. For the stated objective to be achieved, a noted improvement in attitude toware 'free enterprise,' 'business,' 'the world of work,' and 'employers' would have to be observed.

TABLE 6

Telecourse Attitude Mean Scores

| | Pretest | Posttest |
|---|---|---|
| Employees | 54.477 | 55.653 |
| World of Work | 53.753 | 52.720 |
| Business | 59.088 | 58.699 |
| Free Enterprise | 58.444 | 58.682 |

TABLE 7

On Campus Attitude Mean Scores

| | Pretest | Posttest |
|---|---|---|
| Employers | 54.299 | 54.195 |
| World of Work | 53.172 | 53.782 |
| Business | 60.023 | 58.598 |
| Free Enterprise | 58.138 | 59.011 |

Referring to Tables 6 and 7, there was no significant change in attitude in any area for either group. There was also no significant difference between the posttest attitude mean scores of the Instructional television students and the on-campus students. Neither method of instruction had a significant effect on students' attitudes toware "free enterprise," "Business," "the World of Work" and "Employers."

Achievement

One of the basic questions concerning Instructional television courses focuses on the achievement of the students. Do students in telecourses achieve cognitive objectives as well as students in conventional classroom settings? To respond to this question, an achievement test was administered to both groups during the final week of the semester. The items in this test were based upon the objectives of the two courses, which, after consulting the course syllabi for each course, were determined to be identical. The highest possible score on this test was 100.

The mean scores from this achievement test are recorded in table 8.

TABLE 8

Mean Scores for Achievement Test

| | | |
|---|---|---|
| Telecourse | 89.458 | t=5.998 |
| On-campus | 81.015 | |

A t-test of independent means was used to determine if a significant difference in achievement test means existed between the two groups. A significant difference was found; the telecourse students scored significantly higher on this test than the on-campus students.

The achievement of mean scores of 89 and 81 for television and on-campus groups respectively on a 100-point achievement test based upon commom objectives implies that students who take the course under either method of instruction and complete the course have been successful in mastering the cognitive elements of the course content. It is unknown whether the significant differences between achievement test scores of the two groups is related to differential effectiveness of instruction, differences in pre-course knowledge of students, or sampling error. It must be concluded, however, that on the achievement test based on cognitive objectives common to both instructional strategies, the Instructional television group performed better than the on-campus group.

Business vs. Non-business Career Students

For the second part of this study, the students were classified as "Business Career," or "non-business career" students to determine if differences existed on the variables, achievement and locus of control. The classification was based on students responses to the "Student Career Interest Survey" administered the first week of the semester. Table 9 shows the achievement

mean scores obtained by telecourse and on-campus students. There were no significant differences between the "business" career and "non-Business" career students mean achievement scores in either group. Table 10 illustrates the locus of control scores of the telecourse students. On the "internal" scale of the locus of control instrument there was a significant change between the pretest and the posttest. There was no significant change on either of the other two scales for telecourse students. The locus of control scores for the on-campus group are displayed in table 11. There were no significant changes on any scale between the pretest and posttest.

TABLE 9

Achievement Test Mean Scores

| | Television | On-campus |
|---|---|---|
| Business | 89.95 | 80.00 |
| Non-business | 88.96 | 83.39 |

TABLE 11

Locus of Control for On-Campus Students

| | Business | Non-business |
|---|---|---|
| External | 37.65 | 37.21 |
| Powerful other | 31.26 | 30.95 |
| Chance | 30.35 | 29.41 |

TABLE 10

Locus of Control for Telecourse Students

| | Business | Non-business |
|---|---|---|
| Internal | 39.79 | 38.07 |
| Powerful other | 31.04 | 29.64 |
| Chance | 29.80 | 28.50 |

Other Comparisons

In order to discover any relationship between the variables, locus of control and achievement, a number of comparisons were made within the telecourse group and within the on-campus group. Table 12 illustrates correlations between the achievement scores and the three scales on Levenson's locus of control instrument for both the Instructional television and on-campus students. Of these results, there was only one significant finding: there was a significant negative correlation between the achievement scores and the "Chance" scale for the telecourse students. This indicates that a person who had a high score on the achievement test believed that the element of chance had little effect on his life.

TABLE 12

Correlation Between Achievement Scores and Locus of Control Scales

| | Telecourse | On-Campus |
|---|---|---|
| Internal | .083 | .144 |
| Powerful Other | -.092 | .175 |
| Chance | -.217 | -.104 |

Demographic Information

The following information was gathered using computer programs which combined the demographic information with the scores of each student. The resulting data were arranged in various orders to reveal any patterns which might be of interest.

Table 13 shows the average age of students in the telecourse and on-campus. Also, the number of males and females in each group are listed. In the telecourse, there were more females than males, while on-campus the situation was reversed. The average age of the telecourse student was 6 years greater than that of the on-campus student.

TABLE 13

Age and Sex Distribution by Course

| | Telecourse | On-campus |
|---|---|---|
| age average | 29.8 | 23.1 |
| males | 114 | 57 |
| females | 147 | 41 |

Table 14 contains the mean achievement scores for both groups broken down by sex. The females attained higher scores on the achievement test for both the telecourse and on-campus courses.

TABLE 14

Mean Achievement Scores by Sex and Course

| Achievement | Telecourse | On-campus |
|---|---|---|
| male | 88.73 | 80.94 |
| female | 89.27 | 82.38 |

In table 15, the mean achievement scores are listed but broken down by age categories. The age break at 28 was selected because the average age of all students was 28 years. The students in the age range of 28 and above averaged higher on the achievement test than the students in the age range below 28,

TABLE 15

Mean Achievement Scores by Age and Course

| Achievement | Telecourse | On-campus |
|---|---|---|
| age below 28 | 85.87 | 80.20 |
| age 28 and above | 91.29 | 88.73 |

Table 16 gives the ethnic breakdown for the instructional television and on-campus courses. In both the television and on-campus groups, there were more Causasians than Blacks.

Although the same number of Blacks enrolled in the television and on-campus courses, the percentage in the telecourse group was less due to the much larger Caucasian enrollment.

TABLE 16

Ethnic Breakdown

| Ethnic Origin | telecourse | % | On-campus | % | total | % |
|---|---|---|---|---|---|---|
| Caucasian | 226 | 87 | 69 | 71 | 295 | 83 |
| Black | 26 | 10 | 25 | 26 | 51 | 14 |
| Latin American | 8 | 3 | 3 | 3 | 11 | 3 |
| American Indian | 1 | 0 | 0 | 0 | 1 | 0 |

## Summary and Conclusions

No appreciable change in the career interests of students was noted after they had completed either the television or on-campus introduction to business courses.

Although a significant change was observed in the television student's locus of control measures, there is question as to whether this change was related to the method of instruction or some uncontrollable factors.

No significant change in attitude was noted in either the telecourse or on-campus group after they completed the introduction to business course.

In the area of achievement of cognitive objectives, both groups successfully mastered the objectives, but the television group attained a higher mean score on the achievement test than the on-campus group.

It should be noted that these two groups were different in many respects. The telecourse group was older and had a greater percentage of females. While the on-campus group had a higher percentage of males and blacks. It is quite possible that these differences affected the results of this study.

It may be concluded that the expenditure of District resources in developing and implementing the BUS 105 Telecourse has resulted in a viable instructional vehicle. Students enrolled in the TV course have been very successful in achieving cognitive objectives. It should be noted that while improvement in making a business career choice and attitude toward the world of business was not observed, end-of-course measures of these variables indicated little difference between TV students and on-campus students.

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